

Remarks/Arguments

Claims 1 through 4 remain pending in the application. Claims 5 through 11 are newly added.

In the Office Action claims 1 through 4 were rejected under 35 U.S.C. 102(e) as being anticipated by US Patent No. 6,305,948 to Wu. (hereinafter “the Wu patent”). Applicants respectfully disagree.

Claim 1 is directed to a resilient contact element including, *inter alia*, an elongate mounting section to be disposed on a mounting plane having a front end portion and a rear end portion opposite to front end portion, along the strip axis, a curved section having a concave configuration relative to the mounting plane, and including a first curved segment that curves rearwardly from the rear end portion away from the mounting plane, and a second curved segment that curves rearwardly from first curved segment toward the mounting plane, a resilient section that curves forwardly from the second curved segment away from the mounting plane, the resilient section having a first end connected to the second curved segment, and a second end opposite to said first end along the strip axis, and an elongate contact section extending forwardly from the second end of the resilient section and generally parallel to and spaced apart from the mounting section.

The Wu patent is directed to a surface mounted connector for connecting an IC card to a circuit board. The terminals of the connector are first mounted in an elongated housing, and the assembly of the terminals and the housing are subsequently mounted on the circuit board using SMT techniques. The connector has several pairs of terminals having U-shaped mounting surfaces to be mounted to a circuit board, where each has a resilient arching portion that contacts the IC card to maintain contact therebetween.

The Office Action cites elements 342 (Figs. 2 through 4) of the Wu patent as the elongate mounting section to be disposed on the mounting plane, the mounting section having a front end portion and a rear end portion opposite to the front end portion along the strip axis (page 2).

Applicant respectfully disagrees. Elements 342 are actually bridge elements that extend along an inner portion of the lower section of the terminal from one end of the mounting surface 340 of the base 34 to the annular curved beam (column 2, lines 56 to 60, Figure 4). These elements cannot be the elongate mounting section as the Office Action suggests because they are neither elongate nor are they disposed on any mounting plane, as claimed.

The Office Action also cites elements 321 as the resilient section that curves forwardly from the second curved segment away from the mounting plane *and* also as the elongate contact section extending forwardly from the second end of the resilient section and generally parallel to and spaced apart from the mounting section. Applicant respectfully disagrees.

Elements 321 do not curve forwardly from the second curved segment. Neither are elements 321 elongate contact sections that are parallel to the mounting section. In contrast, elements 321 are inclined straight portions extending from the annular beam and the mounting plane that do not contact the IC card. Convex portions 320 project above the top surface 23 to contact the IC card 5, not elements 321.

Additionally, the Wu patent does not disclose a curved section having a concave configuration relative to the mounting plane. The entire mounting surface of the Wu patent is entirely above the mounting plane. The claimed invention shows that the curved section actually is concave relative to the mounting plane.

Furthermore, “anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration.” *W.L. Gore & Assocs. V. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303, 313 (Fed. Cir. 1983). The Office Action cites elements 321 as both the resilient section and the elongate contact section, which are distinct claimed elements of the present invention. Reconsideration and withdrawal of this 35 U.S.C. 102(e) rejection are respectfully requested.

Dependent claim 2 provides that the contact section has a connecting portion connected to the resilient section and the contact strip be further configured with a blocking section that extends inclinedly from the distal portion of the contact section to the mounting plane that is disposed in front of the front end portion of the mounting section.

The Office Action cites elements 32 as evidently the connecting portion connected to the resilient section and a distal portion opposite to the connecting portion along the axis strip and a blocking section that extends inclinedly from the distal portion towards the mounting plane and that is disposed in front of the front end portion of the mounting plane. Applicants respectfully disagree.

The Wu patent states that element 32 is an inclined spring beam including portion 321, convex portion 320 arcing upward from an outer end of the inclined portion, and retaining portion 322 at a free end (column 3, lines 5 through 9). From the Office Action, it is unclear which portions of element 32 are directed to the claimed elements and limitations. The Wu patent does not disclose that element 32 is a contact strip being configured with a blocking section that extends inclinedly from the distal portion of the contact section toward the mounting plane, that is disposed in front of the front end of the mounting section. Element 32 only has inclined element 321 that is not a blocking element that actually extends away from any mounting plane. Further, element 321 does not

have any portion that is disposed in front of the front end portion of the mounting plane, as claimed.

The other components of element 32, namely 320 and 322 are also not blocking elements that extend inclinedly from the distal portion of the contact section toward a mounting plane. The Wu patent does not disclose the claimed subject matter of the invention. As discussed previously, anticipation requires disclosure of each element of the invention in a single reference.

Claim 3 provides that the blocking section has a length sufficient to extend beyond the mounting plane. The Office Action again cites element 32 of the Wu patent as disclosing a blocking section having a length sufficient to extend beyond the mounting plane.

Applicant respectfully disagrees. Element 32 of the Wu patent does not disclose a blocking section having a length sufficient to extend beyond the mounting plane. As discussed previously with respect to element 32, is an inclined spring beam including portion 321, convex portion 320 and a retaining portion 322. It is not structured as claimed. Claim 3 is allowable for this reason as well as the reasons related to independent claim 1 and dependent claim 2 above and from which claim 3 depends. Reconsideration and withdrawal of the rejection are respectfully requested.

Dependent claim 4 depends from independent claim 1 and is also allowable for the reasons discussed with respect to claim 1. Reconsideration and withdrawal of the 35 U.S.C. §102(e) are respectfully requested.

New independent claim 5 corresponds to original claim 3 rewritten in independent form. Therefore, claim 5 would also be also allowable over the cited reference the reasons discussed above with respect to claim 3, and claims 1 and 2 from which claim 3 depends. Also, dependent claim 6 would also be allowable

over the cited reference for the reasons discussed with respect to independent claim 5 from which it depends.

New claims 7 through 11 are directed to a board assembly that includes a circuit board and a contact element.

New independent claim 7 includes, *inter alia*, a circuit board having a mounting plane and an edge transverse to the mounting plane, a resilient contact element including a unitary conductive contact strip that has a strip axis and that is bent to configure the contact strip with an elongate mounting section to be disposed on a mounting plane having a front end portion and a rear end portion opposite to front end portion, along the strip axis, a curved section having a concave configuration relative to the mounting plane, and including a first curved segment that curves rearwardly from the rear end portion away from the mounting plane, and a second curved segment that curves rearwardly from first curved segment toward the mounting plane, a resilient section that curves forwardly from the second curved segment away from the mounting plane, the resilient section having a first end connected to the second curved segment, and a second end opposite to said first end along the strip axis, and an elongate contact section extending forwardly from the second end of the resilient section and generally parallel to and spaced apart from the mounting section.

Support for this amendment can be found at page 6, lines 8 through 10 of the Specification.

As discussed above with respect to independent claim 5, the Wu patent would also not anticipate independent claim 7.

The Wu patent discloses base portion having a mounting surface that is exposed from the bottom side of the housing for connection to a circuit board. That mounting section is not an elongate element, but is only a segment of the

lower portion that also includes a fitting tail and a bridge element. In contrast, the contact element of the present invention has an elongated mounting section having a front end portion and a rear end portion opposite to the front end portion along that strip axis. The exposed base portion of the Wu patent is not structured as claimed.

Furthermore, as discussed above with respect to claim 1, the Wu patent does not disclose a resilient section that curves rearwardly from the second curved segment away from the mounting plane or an element that has an elongate contact section extending forwardly from the second end of the resilient section that is generally parallel to and spaced apart from the mounting section.

Additionally, the Wu patent does not disclose a curved section having a concave configuration relative to the mounting plane. The entire mounting surface of the Wu patent is entirely above the mounting plane. The claimed invention shows that the curved section actually is concave relative to the mounting plane.

Claim 8 includes, *inter alia*, an edge that defines in a hole in the circuit board, the curved section being disposed in a hole in the circuit board. Dependent claim 8 finds support in the specification on page 8, lines 8 through 14.

The Wu patent also does not disclose the claimed subject matter of claim 8. The Wu patent does not disclose an edge transverse to the mounting plane wherein the edge defines a hole in the circuit board. As shown in Figure 4, there is no hole in the circuit board in which the curved portion is disposed. In contrast, the entire element is disposed within a lateral passageway that runs the length of the housing.

Claim 9 provides that the contact section has a connecting portion connected to the resilient section and a distal portion opposite to the connecting

portion along the strip axis, the contact strip being further configured with a blocking section that extends inclinedly from the distal portion of the contact section to the mounting plane that is disposed in front of the front end portion of the mounting section.

As discussed above with respect to claim 2, elements 32 do not disclose the claimed subject matter as suggested by the Office Action.

The Wu patent states that element 32 is an inclined spring beam including portion 321, convex portion 320 arcing upward from an outer end of the inclined portion, and retaining portion 322 at a free end (column 3, lines 5 through 9). From the Office Action, it is unclear which portions of element 32 are directed to the claimed elements and limitations. The Wu patent does not disclose that element 32 is a contact strip being configured with a blocking section that extends inclinedly from the distal portion of the contact section toward the mounting plane, that is disposed in front of the front end of the mounting section. Element 32 only has inclined element 321 that is not a blocking element that actually extends away from any mounting plane. Further, element 321 does not have any portion that is disposed in front of the front end portion of the mounting plane, as claimed.

Dependent claim 10 provides that the circuit board be formed with a hole proximate to the front end portion of the mounting section, the blocking section having a length sufficient to extend into the hole.

The Wu patent does not disclose that the circuit board is formed with a hole proximate to the front end portion of the mounting section. The Wu patent also does not disclose a blocking section having a length sufficient to extend into any hole. The purpose of the blocking section is to prevent the electric component from hooking with the contact section when removing the electric component and to

prevent foreign objects from extending between the mounting section and the contact section and interfering with contact operation of the contact section.

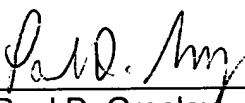
Dependent claim 10 would be allowable over the Wu patent for the reasons discussed above and for the reasons related to independent claim 9 from which it depends.

Dependent claim 11 depends from independent claim 7 would also be allowable over the Wu patent for the reasons discussed with respect to claim 7.

Consideration and allowance of application is respectfully requested.

Respectfully submitted,

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Date



Paul D. Greeley
Attorney for Applicant(s)
Registration No. 31,019
Ohlandt, Greeley, Ruggiero & Perle, L.L.P.
One Landmark Square, 10th Floor
Stamford, CT 06901-2682
(203) 327-4500